

REMARKS

Interview Summary

Applicant thanks the Examiner for the interview granted on April 10, 2006. The interview was very helpful. In the Interview, the Applicant presented the arguments listed below. The Examiner indicated that he would review the references and update his search accordingly.

Response to Office Action

Claim 130-249 are pending in this application. The Office Action rejected claims 130-249. Claims 130, 198, 201, 204, 207, 210, 213, 218, 221, 224, and 227 are the independent claims. For the rejection of Claims 130, 198, 201, 204, 207, 209, 213, 218, 221, 224, and 227, the Examiner applied Robertazzi, Hortensius, Regenold, and Wade. For the rejection of Claim 210, the Examiner applied Robertazzi, Hortensius, Regenold, Wade, and Kean.

Applicant respectfully disagrees with the rejection. However, in order to expedite allowance of the claims, Applicant has amended the independent claims to include the feature of the use of more than one microprocessor per microchip **in addition to** multiple components of a PC being put on the microchip. Nowhere in Robertazzi, Hortensius, Regenold, Wade, Kean, or any of the other cited prior art is this combination included. In fact, the prior art teaches away from the Applicant's combination, since at the time of the application, microprocessor designers used all of the available microchip "real estate" to maximize microprocessor speed, as disclosed by Slater (see Slater, pages 38-39, although notably without using multiple processors to do so). In contrast, embedded processor

designers used all of the available microchip “real estate” to add non-microprocessor functions (see Slater, pages 42-43).

Furthermore, none of the cited prior art provides support for the limitation of multiple components of a PC being put on a microchip. (It should be noted that this limitation was already present in the previous version of the claims rejected by the Examiner.) In fact, the cited prior art teaches away from this limitation. On page 5 of the Office Action, the Examiner incorrectly states that Slater discloses that microprocessors are evolving towards a system on a chip, citing pages 42-43 of Slater. However, in Slater’s introduction on page 32, Slater divides microprocessors into three principal categories: desktop computers, embedded microprocessors, and digital signal processors (DSPs). Desktop (including PC) computer microprocessors are discussed by Slater in detail on pages 32-40, not on pages 42-43, which instead discuss embedded microprocessors, not the PC microprocessors claimed by the Applicant.

Moreover, Slater states that “As embedded microprocessors evolve toward systems on a chip, they inevitably become more specialized . . . [which is] increasing the demand for building-block microprocessors that can function as parts of application-specific integrated circuits (ASICs).” (Slater, page 42-43)

Therefore, the Examiner is incorrect to conclude that it would have been obvious to put all components of a PC onto a microchip, since Slater says nearly the opposite about desktop computer (PC) microprocessors: “Such microchips typically integrate few functions other than cache memory and bus interfaces with the microprocessor but usually include a floating-point unit and memory management unit.” (See Slater, page 32.) These four referenced functional components (cache memory, bus interfaces, floating point unit, memory management unit) have not been claimed by the Applicant. Rather, in the independent claims, Applicant has claimed at least one of the following components: a non-

volatile memory, a power management component, an analog communications component, an active configuration of an integrated circuit; a field-programmable gate array (FPGA), and a digital signal processor (DSP) component. Note that the claimed PC also includes a wireless network connection mechanism configured to connect the PD to a network.

Thus, all of the independent claims now have the limitation of multiple microprocessors on the PC microchip, as well as having the limitation of the PC microchip also comprising at least one of the above-mentioned components. Independent Claim 130 has the limitations of a microchip comprising at least two microprocessors, the microchip also comprising a non-volatile memory component and a power management component. Independent Claim 198 has the limitations of a microchip comprising at least two or four or 8 or 16 or 32 or 64 or 128 or 256 or 512 or 1024 microprocessors, the microchip also comprising a power management component. Independent Claim 201 has the limitations of a microchip comprising at least two or four or 8 or 16 or 32 or 64 or 128 or 256 or 512 or 1024 microprocessors, the microchip also comprising an analog communications component and a power management component. Independent Claim 204 has the limitations of a microchip comprising at least two or four or 8 or 16 or 32 or 64 or 128 or 256 or 512 or 1024 microprocessors, the microchip also comprising a digital signal processor (DSP) and a power management component. Independent Claim 207 has the limitations of a microchip comprising at least two or four or 8 or 16 or 32 or 64 or 128 or 256 or 512 or 1024 microprocessors, the microchip also comprising an active configuration of an integrated circuit of the microchip and a power management component. Independent Claim 210 has the limitations of a microchip comprising at least two or four or 8 or 16 or 32 or 64 or 128 or 256 or 512 or 1024 microprocessors, the microchip also comprising a field-programmable gate array (FPGA) and a power management component. Independent Claim 213 has the limitations of a microchip comprising at least two or four or 8 or 16 or 32 or 64 or 128 or 256

or 512 or 1024 microprocessors, the microchip also comprising a power management component. Independent Claim 218 has the limitations of a microchip comprising at least two or four or 8 or 16 or 32 or 64 or 128 or 256 or 512 or 1024 microprocessors, the microchip also comprising a non-volatile memory component and a power management component. Independent Claim 221 has the limitations of a microchip comprising at least two or four or 8 or 16 or 32 or 64 or 128 or 256 or 512 or 1024 microprocessors, the microchip also comprising a digital signal processor (DSP) and a power management component. Independent Claim 224 has the limitations of a microchip comprising at least two or four or 8 or 16 or 32 or 64 or 128 or 256 or 512 or 1024 microprocessors, the microchip also comprising a digital signal processor (DSP) and a power management component. Independent Claim 227 has the limitations of a microchip comprising at least two or four or 8 or 16 or 32 or 64 or 128 or 256 or 512 or 1024 microprocessors, the microchip also comprising an application-specific integrated circuit (ASIC) and a power management component.

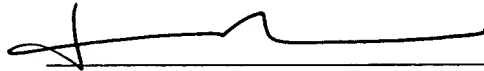
The pending application provides support for these limitations. The limitation of a microchip with at least two microprocessors is supported by Applicant's application in, for example, originally filed Claims 4, 7, 12, 18, 24, 28, 32, and 38, as well as in FIGURES 10A, 10C, 16R-16T and 20B. Support for each of the component, at least one of which is included, for example, in each independent claim, is as follows: a non-volatile memory (originally filed Claims 14 and 34, FIGURE 10C), a power management component (FIGURE 10C), an active configuration of an integrated circuit (FIGURES 10P and 10Q), a field-programmable gate array (FPGA) (FIGURES 10P and 10Q), an analog communications component (FIGURE 10C), and a digital signal processor (DSP) (FIGURES 10C and 20B).

Applicant thus submits that Claims 130, 198, 201, 204, 207, 209, 210, 213, 218, 221, 224, and 227 are in condition for allowance. All of the other pending claims are dependent on these independent claims, and are also thus allowable. No new matter has been added.

Applicant believes the objections and rejections in the Office Action have been addressed and that the application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone should the Examiner believe that personal communication will expedite prosecution of this application.

Respectfully submitted,

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